

REMARKS

Claims 1-7, 9-18, 32-34, and 53 are currently pending in the subject application and are presently under consideration.

Applicants' representative acknowledges with appreciation the courtesies extended by the Examiner during the telephonic interview conducted on December 4, 2008. During the telephonic interview, distinctions between the independent claims and the cited references were discussed, yet no agreement was reached. These distinctions are set forth herein in greater detail.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments herein.

I. Rejection of Claims 1-7, 9-18, 32-34, and 53 Under 35 U.S.C. §103(a)

Claims 1-7, 9-18, 32-34, and 53 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Maissel *et al.* (U.S. 6,637,029) in view of Herz *et al.* (U.S. 5,758,257) and Neal *et al.* (U.S. 6,324,534). It is respectfully submitted that this rejection should be withdrawn for the following reasons. Maissel *et al.*, Herz *et al.*, and Neal *et al.*, alone or in combination, do not teach or suggest each and every element set forth in the subject claims.

Independent claim 1 (and similarly independent claims 18 and 53) recites that a collaborative filtering system ... infer[s] content preferences associated with a *likely subset of the local users that employs the information delivery system during a particular one of the plurality of time subintervals*. Accordingly, a subset of local users that is likely to employ the information delivery system during a given time subinterval is inferred, and content preferences associated with this likely subset of local users are inferred. Further, independent claim 1 (and similarly independent claims 18 and 53) recites that the collaborative filtering system ... generates the recommendation specific to the *inferred, likely subset of the local users* based at least in part on the inferred content preferences and information obtained from a plurality of global users related to *the particular one of the plurality of time subintervals*. Thus, a recommendation tailored to the inferred, likely subset of local users that employs the information delivery system during the given time subinterval is yielded. Moreover, independent claim 1 recites that the collaborative filtering system *automatically expands the particular one of the plurality of time subintervals to include at least one supplementary time subinterval* when the recommendation produced from the particular one of the plurality of time subintervals including

the target time period is insufficient. Additionally, independent claim 18 (and similarly independent claim 53) recites that the collaborative filtering system ***automatically broadens the particular one of the plurality of time subintervals into at least one additional time subinterval*** when the recommendation generated from the particular one of the plurality of time subintervals covering the target time period is inadequate. Hence, when the recommendation is insufficient, the collaborative filtering system can enhance the recommendation by automatically adding time subinterval(s) (e.g., automatically expanding, automatically broadening). This enhanced time frame can be utilized to identify the subset of local users that is likely to employ the information delivery system, infer content preferences of the likely subset of local users, and generate the recommendation for the inferred, likely subset of local users. Maissel *et al.*, Herz *et al.*, and Neal *et al.*, alone or together, do not teach or suggest such claimed aspects.

In particular, Maissel *et al.*, Herz *et al.*, and Neal *et al.*, alone or in combination, fail to teach or suggest that a collaborative filtering system ... infer[s] content preferences associated with a ***likely subset of the local users that employs the information delivery system during a particular one of the plurality of time subintervals*** as recited in independent claim 1 (and similarly independent claims 18 and 53). Maissel *et al.* relates to electronic program guides for television systems. (See col. 1, ll. 11-13). Program schedule information can be used to assist a television viewer in choosing a television program to watch, either at a current time or in the future. (See col. 11, ll. 11-13). Further, an intelligent agent can be used to store program characteristics in a viewer preference profile, which can include information obtained over a period of time. (See col. 12, ll. 23-30). The period of time can be a few minutes, a year, or an unlimited amount of time. (See col. 12, ll. 30-31; col. 12, ll. 41-45). The intelligent agent can employ the preference profile to customize an electronic program guide. (See col. 3, ll. 5-8). The Final Office Action dated November 4, 2008 incorrectly contends that Maissel *et al.* discloses “inferring content preferences associated with a likely subset of the local users that employs the information delivery system” at col. 18, ln. 45 – col. 19, ln. 15. (See pg. 3). As described in Maissel *et al.*, television viewing information can be transmitted from viewers sites to a headend (which includes the intelligent agent), and the headend can store viewer preference profiles for a plurality of viewers located at a plurality of sites. (See col. 18, ll. 45-60). Further, the intelligent agent can receive one or more viewer preference profiles associated with a particular site and prepare customized program schedule information intended for that particular

site. (See col. 18, ll. 60-64). Maissel *et al.* notes that viewer identification information such as a personal identification number can be used to distinguish between multiple viewers of a common television (e.g., site) or, if such viewer identification information is not used, then viewing information is not associated with any particular viewer; rather, the viewing information is generally associated with the television. (See col. 11, ln. 65 – col. 12, ln. 16). Thus, at best, Maissel *et al.* discloses that a known site is identified without distinguishing between differing users of such site (and program schedule information is customized based upon the identity of the known site) or that a known identity of a particular viewer is recognized (and program schedule information is customized based upon the known identity of the viewer). A *known* identity of a viewer or a site, however, differs from a ***likely subset of local users*** that employs the information delivery system as claimed. In contrast, independent claim 1 (and similarly independent claims 18 and 53) relates to a ***likely subset of the local users*** inferred to be using the information delivery system being utilized to infer content preferences, instead of use of a ***known user*** or a ***known site*** (and all local users associated therewith) as disclosed in Maissel *et al.* Moreover, Maissel *et al.* is silent with regards to identifying a subset of local users that is likely to employ the information delivery system ***during a given time subinterval***. Hence, Maissel *et al.* fails to teach or suggest such claimed aspects.

Herz *et al.* does not make up for the aforementioned deficiencies of Maissel *et al.* with respect to a collaborative filtering system that ... infer[s] content preferences associated with a ***likely subset of the local users that employs the information delivery system during a particular one of the plurality of time subintervals*** as recited in independent claim 1 (and similarly independent claims 18 and 53). Herz *et al.* relates to scheduling receipt of desired movies and other forms of data from a network such as a cable television system. (See Abstract). Herz *et al.* describes creating one or more customer profiles for each customer of video programs, where the customer profiles indicate customer's preferences for predetermined characteristics of video programs and can vary in accordance with time of day, time of week, and/or customer mood. (See col. 4, ll. 59-64; col. 5, ll. 23-28). Different customer profiles can be used for each customer in accordance with the time of the day and of the week, thereby reflecting changes in the customer's preferences or moods during the course of a week. (See col. 5, ll. 29-33). Moreover, each mood has a time window within which the mood is effective, where the time window has a starting point and an ending point. (See col. 17, ll. 33-41). Further, the customer

can be responsible for defining the moods. (*See* col. 17, ll. 66-67). Based upon the customer profiles, an agreement matrix can be generated that enables the system to determine a subset of available programs at a particular point in time which is most desirable for viewing by the customer. (*See* col. 5, ll. 4-8). Thus, Herz *et al.* relates to determining desirable programs for a **known customer** at a point in time based upon customer profiles with preset times within which they are effective rather than inferring a **likely subset** of the local users that employs the information delivery system during a particular one of the plurality of time subintervals and inferring content preferences associated with this likely subset of the local users. Accordingly, Herz *et al.* fails to account for the deficiencies of Maissel *et al. vis a vis* such claimed aspects.

Moreover, Neal *et al.* does not make up for the aforementioned deficiencies of Maissel *et al.* and Herz *et al.* with regards to a collaborative filtering system that ... infer[s] content preferences associated with a likely subset of the local users that employs the information delivery system during a particular one of the plurality of time subintervals as recited in independent claim 1 (and similarly independent claims 18 and 53). Neal *et al.* pertains to an electronic catalog search engine that uses a search process that identifies a desired item from a most advantageous supplier. (*See* Abstract). Neal *et al.* is silent with respect to determining user preferences, which can be used as part of the database search, or inferring a likely subset of local users, and instead provides for cascading search methodologies on preselected segments, or sets, of data. (*See* col. 3, ll. 25-27).

Further, Maissel *et al.*, Herz *et al.*, and Neal *et al.*, alone or in combination, fail to teach or suggest that the collaborative filtering system ... generate[s] the recommendation specific to the inferred, likely subset of the local users as recited in independent claim 1 (and similarly independent claims 18 and 53). As described above, Maissel *et al.*, Herz *et al.*, and Neal *et al.*, separately or together, do not teach or suggest inferring a likely subset of the local users that employs the information delivery system during a particular one of the plurality of time subintervals. Accordingly, it follows that Maissel *et al.*, Herz *et al.*, and Neal *et al.*, individually or in combination, fail to teach or suggest generating recommendations tailored to this inferred, likely subset of the local users.

Moreover, Maissel *et al.*, Herz *et al.*, and Neal *et al.*, alone or together, do not teach or suggest that the collaborative filtering system automatically expands the particular one of the plurality of time subintervals to include at least one supplementary time subinterval when the

recommendation produced from the particular one of the plurality of time subintervals including the target time period is insufficient as recited in independent claim 1. As conceded in the Final Office Action dated November 4, 2008, Maissel *et al.* and Herz *et al.* fail to disclose such aspects. (See pg. 5). Maissel *et al.* relates to obtaining information over a given interval of time, and using the information from that given interval of time to customize the electronic program guide. However, Maissel *et al.* is silent with regards to considering whether a yielded recommendation is sufficient. Additionally, Maissel *et al.* is silent with regards to automatically expanding an amount of time utilized for inferring content preferences and/or generating recommendations by adding at least one supplementary time subinterval when the recommendation is deemed to be insufficient as claimed. Moreover, Herz *et al.* is silent with regards to automatically expanding an amount of time used for inferring content preferences and/or generating recommendations by employing at least one supplementary time subinterval when the recommendation is determined to be insufficient as claimed.

The Final Office Action dated November 4, 2008 improperly contends that Neal *et al.* makes up for the aforementioned deficiencies of Maissel *et al.* and Herz *et al.* by stating that Neal *et al.* “teaches a searching paradigm wherein if the number of ‘hits’ from a particular search of a given data set is insufficient, then the search is broadened to include additional data sets until a satisfactory result is found.” (See pg. 5). Neal *et al.* describes employing a first search methodology to a first data set, and if a match is not yielded, then applying a second search methodology (which can be the same as or different from the first search methodology) to a second data set, and so forth. (See col. 6, ll. 34-65). Thus, if a search is performed upon a first supplier’s catalog and no match is uncovered, then a search can be performed upon a second supplier’s catalog to try to locate a match to a query. However, Neal *et al.* does not relate to a collaborative filtering system. Moreover, Neal *et al.* describes **switching** from a first data set to a second data set when a match is not yielded from a search upon the first data set, rather than **expanding** the first data set to include the second data set. Further, Neal *et al.* does not teach or suggest **automatically expanding a time subinterval** (by including at least one supplementary time subinterval), which is used to infer a likely subset of local users that employs an information delivery system, infer content preferences of this likely subset of local users, and generate recommendations. Neal *et al.* is silent with regards to searching based upon time or

defining a data set based upon considerations of time in general. Thus, Neal *et al.* fails to teach or suggest such claimed aspects.

Moreover, for similar reasons, Maissel *et al.*, Herz *et al.*, and Neal *et al.*, alone or in combination, do not teach or suggest that the collaborative filtering system ***automatically broadens*** the particular one of the plurality of time subintervals into at least one additional time subinterval when the recommendation generated from the particular one of the plurality of time subintervals covering the target time period is inadequate as recited in independent claim 18 (and similarly independent claim 53). In particular, Maissel *et al.* and Herz *et al.* are silent with regards to such aspects. Moreover, Neal *et al.* fails to teach or suggest automatically broadening the time subinterval into at least one additional time subinterval. On the contrary, Neal *et al.* discloses switching from performing a search upon a first data set to performing a search upon a second data set without broadening of a time subinterval used for inferring likely local user(s), inferring content preferences of such likely local user(s), and generating recommendations. Accordingly, Maissel *et al.*, Herz *et al.*, and Neal *et al.*, individually or together, fail to teach or suggest such claimed aspects.

Applicants' representative asserts that the Examiner is employing a 20/20 hindsight road map based analysis to impermissibly provide the missing teaching of the cited documents. In essence, the Examiner is basing the rejection on an assertion that it would have been obvious to do something not suggested in the art based on the advantages disclosed in applicants' specification. This sort of rationale has been condemned by the Court of Appeal for the Federal Circuit as being sophistic. *See e.g. Panduit Corp. v. Dennison Manufacturing Co.*, 1 USPQ2d 1593 (Fed. Cir. 1987). Thus it is submitted, a *prima facie* case of obviousness has not been established against applicants' claimed invention. Further, the subject invention would not have been obvious to one ordinarily skilled in the art sufficient to impel him/her to do what the applicants have suggested, other than *via* employment of applicants' specification as a 20/20 hindsight-based road map to achieve the purported invention.

In view of at least the foregoing, it is readily apparent that Maissel *et al.*, Herz *et al.*, and Neal *et al.*, alone or in combination, do not teach or suggest the subject invention as recited in independent claims 1, 18, and 53 (as well as claims 2-7, 9-17, and 32-34 which respectively depend there from). This rejection should be withdrawn.

CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [MSFTP161US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

AMIN, TUROCY & CALVIN, LLP

/Himanshu S. Amin/

Himanshu S. Amin

Reg. No. 40,894

AMIN, TUROCY & CALVIN, LLP
57TH Floor, Key Tower
127 Public Square
Cleveland, Ohio 44114
Telephone (216) 696-8730
Facsimile (216) 696-8731